OIL & HAZARDOUS MATERIALS SITE EVALUATION
XEROX-CHESHIRE
MUNDELEIN, ILLINOIS

FOR
XEROX CORPORATION
ROCHESTER, NEW YORK

BY
H&A OF NEW YORK
CONSULTING GEOTECHNICAL ENGINEERS,
GEOLOGISTS AND HYDROGEOLOGISTS

FILE NO. 7611 14

APRIL 1988

H&A

H & A of New York

Consulting
Geotechnical Engineers,
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6 April 1988
File No. 7611-14

Xerox Corporation
Environmental Health & Safety
Building 317
Joseph C. Wilson Center For Technology
800 Phillips Road
Webster, New York 14580

Attention: Mr. James C. MacKenzie

Subject: Oil and Hazardous Materials Site Evaluation
Cheshire - A Xerox Subsidiary
Mundelein, Illinois

Gentlemen:

In accordance with your request, H&A of New York (H&A) has performed a site evaluation for the potential presence of oil and hazardous materials at the site of Xerox Corporation's (Xerox) Cheshire manufacturing facility in Mundelein, Illinois. The evaluation was performed in accordance with our pending contract with Xerox Corporation for oil and hazardous material site evaluations.

The property involved in the evaluation consists of five separate facilities in the Allanson Industrial Park in Mundelein. It is our understanding that Xerox is in the process of selling Cheshire, thereby terminating Xerox's role in the lease arrangements currently in effect for the buildings occupied by Cheshire.

H&A initiated this Level A evaluation with a site walkover performed by Mr. Robert Mahoney of H&A of 2 March 1988, a review of available information from local and Illinois State governmental agencies regarding the sites, and discussions with individuals familiar with the sites. This work was followed by field investigations including a soil vapor survey, four test

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borings and sampling of shallow soils below site Bldg. 408 performed during the period 14 through 18 March 1988 to investigate potential source areas identified by the site walkover. In addition, laboratory testing was performed in selected soil samples.

Xerox requested H&A of New York to review several site-specific operational items associated with waste generation, handling and disposal at the Cheshire facility. Our conclusions regarding these items are summarized at the end of the letter report.

Based on our review of the site, and surrounding properties, historical information and field investigations, H&A has made the following findings regarding potential sources and presence of oil and hazardous materials on the site:

- The results of the additional field investigation indicate that past activities at the Cheshire facility at 408 Washington Blvd. have resulted in an apparent release of several volatile organic compounds. Vinyl chloride, cis-1,2-dichloroethene, trichloroethene, toluene and tetrachloroethene were detected by laboratory soil analysis and/or soil vapor sampling performed beneath the floor slab inside the western portion of the building. In addition, vinyl chloride, toluene, acetone, and butanone were detected in soil and/or soil vapor samples obtained outside the western portion of the building.

- The compounds noted above were apparently released as a result of activities in the Cheshire facility associated with routine painting and degreasing of machine parts in the paint shop at the west end of the building, and a spill that reportedly occurred in the paint shop area in 1979. It appears these compounds have not spread more than a few feet beyond the western limits of the building. It is H&A's opinion that the area of contamination will not likely spread much further than it already has, due to the subsurface conditions at the site. The soil underlying the site is a very fine-grained, relatively dense glacial till, which characteristically has a low permeability which would hamper contaminant migration in the vadose zone. In addition, since groundwater beneath the site appears to be in excess of 50 ft. in depth, the potential for migration of contaminants by groundwater transport is remote. The spread of contamination that has occurred to date probably took part largely in the coarse granular base material beneath the facility's floor slab.

- Solvents, lubricating oils, paints (water based), and envelope sealers and glues are used and stored on site. The materials containing volatile organic compounds (the most environmentally mobile materials listed above) are stored in sealed containers in a properly constructed solvent room, and do not appear to represent a threat of potential release to the environment. Waste solvents are removed from the site by an EPA licensed hazardous waste transporter.

- The presence of several underground oil and solvent storage tanks at the MacLean Fogg facility adjacent to 408 Washington Blvd. does not appear to have resulted in the release of hazardous material into the environment. If any release has occurred, it appears no migration of these substances to the Cheshire property has taken place.

- Field investigations at the 1040 High St. location were performed to determine if the former presence or removal of four underground gasoline storage tanks at the adjacent facility at 918 High St. had resulted in a release of hazardous material to the subsurface in the vicinity. Performance of a soil vapor survey at the 1040 High St. building did not detect gasoline related compounds at the points sampled. In addition, apparent oil-stained areas along the outside of the west wall of Cheshire's 1040 High St. facility were investigated. Soil vapor sampling results showed the apparent presence of trichloroethene in only trace quantities in the shallow subsurface along the west wall in the oil-stained areas. Sampling and laboratory analysis of surface and shallow subsurface soil samples at this location did not confirm the presence of the trichloroethene at Bldg. 1040.

- Limited soil vapor sampling performed at the remaining three facilities at 404 Washington Blvd., 1051 High St., and 918 Turret Court detected no volatile organic compounds in the shallow subsurface, and it appears that Cheshire's activities at these locations have not resulted in a release of hazardous substances into the environment.

Attached in Appendix A is the Xerox Corporation Environmental Site/Venture Assessment form completed at the time of the initial site walkover.

The detailed information supporting our conclusions is summarized in the following sections of this report.

SITE CONDITIONS

The site is located as shown on Figure 1, Project Locus. The five buildings currently occupied by Cheshire in the Allanson Industrial Park, as well as adjacent facilities are shown on Figure 2, Generalized Site Conditions and Soil Vapor Sampling Plan.

The Allanson Industrial Park is located in an area of former agricultural land, and the entire area is generally level or has slightly terraced topography. Four of the five Cheshire facilities are located in an area bounded to the south by Allanson Rd., to the east by Washington Blvd., to the north by Orchard Avenue, and to the west by the S00 Line railroad tracks. The fifth facility, at 918 Turret Court, is located south of Allanson Rd., and is bounded to the east by Tower Rd., and to the north, west and south by recently cleared and developed portions of the industrial park. A small park and residential area exist approximately 400 ft. west of the Turret Court facility.

The entire industrial park is currently zoned M-1, Medium Industrial.

All of the five facilities are heated by gas and/or electric heat, and are serviced by municipal water, and storm and sanitary sewer systems. No septic systems reportedly exist at the sites, and no landfills are known to have existed in the immediate vicinity of the sites.

Surface drainage is generally all handled by the storm sewer system in the industrial park. The more recently constructed buildings have small temporary retention basins constructed in accordance with local building codes.

Reportedly, no asbestos-containing materials exist in any of the Cheshire facilities (1). There are reportely no PCB-containing large electrical transformers associated with power supply in any of the buildings (1).

The site conditions for each facility are discussed individually below:

o 408 Washington Blvd.

408 Washington is a 43,000 sq. ft. one-story building which serves as Cheshire's manufacturing facility. The facility contains several work areas associated with the manufacture

of machine products, including but not limited to a tool shop (former machine shop), a paint shop, a strip room and a solvent storage room, all as shown on Figure 3, Soil Vapor Sampling and Test Boring Location Plan at 408 Washington Blvd.

The tool shop is currently used to make small specialty parts needed in manufacture. In the past this area was a machine shop that produced nearly all of Cheshire's machined-parts requirements.

The strip room contains machinery that applies glues to paper strip products. The bulk glue products used in this process are stored in this room, generally as powder or resin forms in cardboard containers.

The solvent storage room, located along the west well of the facility, is a concrete block, explosion-proof storage room built in 1980, and contains the following items:

Item	Container Size	Approximate Number of Containers
27x Reducer	55-gallon drum	1
Xerox brand cleaner	"	1
Catalyst	"	1
Floor Sealer (water-based)	"	1
Chloroethane SM	"	4
Blue Sol	"	1
DuPont 3919 Solvent	5-gallon pails	4
Lubricating Oil	(or smaller)	2
Water-based paints	"	20
T-902 Lacquer washup	"	15

Based on available information, it appears all of the above-listed materials, with the exception of the water-based paints, contain volatile or semi-volatile organic compounds. The chemical constituents of the catalyst had not been determined at the time of this report.

No floor drains exist in the solvent storage room, and no visible evidence of spill or leaks was noted at the time of the site walkover.

The paint shop area of the 408 Washington facility contains a spray paint hood currently used to paint machine parts using water-based paints. Until approximately 1980, oil based paints were used in this hood. Vapors from the hood are vented through a roof stack.

Also contained in the paint shop is a wash "room" that was built in 1982 and used until approximately 1985 to wash parts with a detergent solution. Reportedly, no solvents were used in this wash room. A floor drain is located in the wash room and is reportedly connected to the area storm sewer, as are the remaining four drains in the 408 Washington Blvd. building (see below).

Adjacent to the wash room is a toner vacuum that is no longer operational. During its use, the vacuum was used to remove toner from disassembled machine parts during disassembly. The vacuumed toner was contained and disposed in plastic collection bags.

A gas-fired metal degreaser used to degrease metal parts prior to painting reportedly existed along the west wall of the building from approximately 1966 to 1981. The degreaser reportedly utilized a solvent containing Trichloroethene (TCE), a common industrial solvent, which was heated and vaporized to perform the degreasing (2). Approximately 80 gallons of solvent were used per filling, which lasted approximately 6 months. The spent solvent was containerized in drums and stored outside the northwest corner of the building prior to removal from the site (2).

The drums have been transported from the site for disposal by an EPA licensed Hazardous Material transporter (1). Cheshire is judged by the Federal Environmental Protection Agency (EPA) as a Small Quantity Generator and thus exempt from registering for a Generator status.

In 1979, the storage tank in the degreaser reportedly leaked its entire contents beneath the floor. The unit was reportedly removed in 1981.

The facility apparently has 5 floor drains, as shown on Figure 3. All five drains reportedly connect to an area storm sewer system, however the ultimate discharge point of the system is unknown. Cheshire workers reportely poured small quantities of solvents and paints into some of the drains in the past.

The easternmost portion of the building contains office and cafeteria space.

The building is surrounded on the east, south and west by grass areas, and on the north by paved parking areas. The west and south sides of the property surrounding 408 Washington Blvd. are adjacent to property containing the MacLean-Fogg (M-F) manufacturing facility and offices. Located immediately west of Cheshire is M-F's parking area, where six underground storage tanks exist, ranging in size from 2,000 to 10,000 gallons and containing waste oil/wash water mix, "heading" oil, and mineral spirits (3). Located south of Cheshire is the former Allenson farm house, now owned and used by M-F as a meeting/office facility (3). An underground gasoline storage tank exists on the site, dating to a period when the farm was active. Details on the size, age, or condition of the tank were not available at the time of this report.

o 404 Washington Blvd.

This facility is approximately 32,000 sq. ft. in size, located immediately north of the 408 Washington facility. The building contains office space and a model shop, and no manufacturing activities occur here. The model shop stores very minor quantities of oils and solvents in a solvent storage cabinet.

The building is surrounded on the north, west and south by paved parking area, and on the east by a grass area.

o 1051 High St.

This facility consists of two recently constructed multi-tenant industrial buildings. Cheshire's training facility occupies one unit in the northernmost portion of the west building. The training operation involves the use of very minor quantities of Diconix ink for printing purposes, and does not represent a potential for release of hazardous materials to the environment.

The remainder of the units were unoccupied at the time of the site walkover.

o 1040 High St.

This facility is used as a warehouse for numerous parts, supplies, and products for Cheshire. No manufacturing occurs in the facility. Cheshire currently has two steel 55-gallon drums located near the west side of the building containing several small electrical transformers and ballasts that reportedly contain PCB's. These units have been removed from fluorescent light fixtures in the 408 Washington Blvd. facility. Cheshire intends to have the drums removed by a licensed transporter. The drums are stored on pallets away from traffic areas.

Cheshire occupies only the western two-thirds of the building. The remainder is occupied by Anatol, a manufacturer of machines for automated assembly. Anatol reportedly has a well equipped machine shop on the premises (4).

The building is generally surrounded by paved parking areas except on the east where a grassed area exists.

Immediately to the west of the facility the ground surface rises sharply to a level approximately six to eight feet higher in elevation. Atop this terrace is located an adjacent facility at 912-918 High St., currently occupied by Rand-McNally Co. The narrow alley between the west wall of Cheshire's 1040 High St. building and the steel slope is covered with gravel. Oil stained areas were noted in this alley at the time of the site walkover.

o 918 Turret Court

The Turret Court facility is approximately 13,000 sq. ft. in size. Cheshire occupies approximately 5,000 sq. ft. as office space (5). The remainder is currently occupied by United Promotions, Inc., the owner of the facility. The building has been recently completed and is currently surrounded by paved parking area or freshly graded soil. One other completed building exists on Turret Court, to the southwest of Cheshire, and several others are under construction.

SITE HISTORY

Prior to 1963, the majority of the area now occupied by the Allanson Industrial Park was part of a farm owned and operated by Mr. Park Allanson, who resided in the farmhouse now owned by MacLean-Fogg (M-F) adjacent to Cheshire's 408 Washington Facility (6).

Aerial photographs from 1946, 1954, and 1961 show the area to be cultivated fields. Photographs subsequent to 1963 depict the gradual development of the industrial park (12).

Cheshire's 408 Washington facility was the first building constructed in the vicinity, completed in 1963, followed by M-F in 1965. The following is a brief summary of the sequence of construction of the facilities now occupied by Cheshire:

Address	Year Constructed	Current Owner
408 Washington Blvd.	1963	D&B Enterprises
404 Washington Blvd.	1979	D&B Enterprises
1040 High St.	1980	Kanda, Ltd.
1051 High St.	1987	Vexcell Development Corp.
918 Turret Court	1987	Michael/Theresa Lemmons

Each facility was originally occupied by Cheshire upon completion (10). Xerox purchased Cheshire in 1968.

Rand McNally Company's facility at 912 High St. was originally occupied in part by International Mineral and Chemical (IMC) for use as an auto/truck sevice shop. During IMC's lease period, four 4,000 gallon underground gasoline storage tanks existed within approximately 100-150 ft. of the southwest corner of the 1040 High St. facility. Upon termination of IMC's lease in 1987, the four tanks were removed. The tanks were reportedly in "good" shape when removed (7,8,9).

SUBSURFACE INVESTIGATIONS

Subsurface explorations performed at the site consisted of a soil vapor survey and the drilling of four test borings. The explorations were performed under the observation of H&A of New York personnel at the approximate locations shown on the Site and Subsurface Exploration Plans, Figures 2 through 4.

A survey of vadose (shallow, unsaturated) zone soil vapors was performed at each of the five sites during the period 14 through 18 March 1988, using a Photovac 10S50 Portable Gas Chromatograph (GC). A total of 47 sample points were tested as shown on Figures 2 through 4. Sampling was performed outside the buildings for each of the five sites, and inside the building at 408 Washington Boulevard, through holes drilled in the concrete floor slab.

Soil vapor sampling was accomplished by driving a 3/8 in. diameter weighted steel plunger rod 2 to 3 ft. below the ground surface. A perforated stainless steel vadose zone sampling tube was inserted into the sample hole to the maximum depth of the hole, and sealed at ground surface. An air pump was then attached to the sampler via tygon tubing and a vacuum created on the probe hole. After pumping for 3 to 6 minutes, a syringe was used to draw a sample of soil vapor through the septum adapter of the sampler head. This sample aliquot was subsequently injected into the Photovac GC for analysis. The plunger rod and vadose zone sampler were decontaminated between sampling points by an alconox wash, a tap water rinse, a methanol rinse, and final tap water finse followed by towel drying. The sampler syringe was decontaminated between samples by purging the syringe bore and chamber with ultra-pure zero grade air.

Total volatile organic carbon concentrations were determined by comparing the sample chromatograms to those of in-house standards of known concentrations. Standards used to calibrate for sample screening were as follows:

Standard	Standard Concentration (ppm)
Trans-1,2-Dichloroethene	0.314
Cis-1,2-Dichloroethene	0.319
Trichloroethene	0.364
Benzene	0.218
Toluene	0.323
Meta-xylene	0.537
Ortho-xylene	0.547
Tetrachloroethene	0.409
Vinyl Chloride	0.126

Carrier gas used for the analyses was ultra-pure zero grade air with a purity of less than 0.1 ppm total hydrocarbons. Periodic blank injections were made to establish a quality-control check for volatiles potentially contributed by the carrier gas or other sources. Blank injections were usually made following standard injections as a check against standard bleed-off into subsequent analyses.

Volatile organic contaminants present in groundwater or soil have the potential by various mechanisms to migrate or de-gas into the vadose zone. Presence of volatiles in soil vapor depends on many factors including location and degree of contamination, site geology and weather conditions prevailing at the time of sampling.

Screening of soil vapor in the vadose zone can quickly provide semi-quantitative information regarding the presence of volatile organic contaminants. The information obtained from the soil vapor analyses can include the presence or absence of volatile organic contamination, a qualitative estimation of the degree of contamination (i.e., low or high) and the tentative identification of volatile organic constitutents. All three functions may be accomplished by injecting the sample into various chromatograph columns and then comparing the resulting chromatograms to those of known standards.

The Photovac GC identifies organic compounds based on the long-column retention times for known in-house standards across a retention time window set by the operator. Retention times for any given compound vary with ambient temperature during the analysis and on carrier gas flow rate. Thus, retention times for the same organic compound may vary with separate analyses. Similarly, detection limits will vary over a range of several parts per billion (ppb) as standards and retention times are recalibrated by the operator. Depending on limits established by the operator there will be a lower limit below which detection is not possible (not detected = ND) and a range above this where detection is not reproducable to a level of statistical significance (trace = tr.). Results in Tables I are presented in this manner. The results of the soil vapor survey are discussed below in the section on Subsurface Conditions and Sampling Results.

In addition to the soil vapor survey four test borings were completed between 16 and 18 March 1988, in accordance with generally accepted practice, by Engineers International, Inc. of Westmont, Illinois. The test borings were advanced to depths of 15 to 52 feet below the ground surface by a truck-mounted Mobile B47 rotary drill rig using hollow stem auger casing. A Photovac TIP I Photoionization Detector was used during drilling to monitor potential volatile contaminant levels in the operator breathing space and to screen split spoon samples for volatile organic compounds.

The drill rig and boring equipment were steam-cleaned prior to entering the site, between each test boring performed, and prior to exiting the property.

Soil samples were obtained with standard split spoon samplers (2.0-in. O.D., 1.375-in. I.D.), in accordance with ASTM Specification D1586-84. Field measurement of in-situ soil conditions consisted of the Standard Penetration Test (SPT). The Standard Penetration Resistance (N) is defined as the number

of blows required to drive the standard split spoon sampler 1.0 feet into undisturbed soil with a 140-pound weight falling freely for 30 inches.

Descriptions of the subsurface conditions encountered at each test boring location are presented in Appendix A on the Test Boring Reports, prepared by H&A of New York.

Test borings B408-1 through B408-4 were backfilled with borehole cuttings at completion to depths ranging from 16 to 20 ft., and then backfilled with grout to the ground surface. Test boring B1040-1 was backfilled to ground surface with borehole cuttings only.

Laboratory analyses were performed on soil samples obtained from test borings B408-2, B408-3, and soil samples obtained by hand from below the Bldg. 408 foundation at locations adjacent to soil vapor sample locations CR-008, CR-009 and CR-030. The soil samples from CR-008 and CR-009 were obtained by driving a clean sampling pipe into the soil beneath the floor slab's gravel base. The soil samples obtained from CR-030 was obtained from soil fill beneath the crushed stone bed along the west side of 1040 High St., in an area where oil staining was noted.

The soil samples were transmitted in a refrigerated condition for analysis to Randolph and Associates, Inc. of Chicago, Illinois, an Illinois Environmental Protection Agency (IEPA) Contract Laboratory. Each sample was tested by Method 624 for 36 volatile organic compounds. In addition, the sample from CR-30 was tested for presence of 40 base-neutral and 15 acid-extractable semivolatile compounds. A summary of the compounds detected in the analyses is given in Table II, Summary of Organic Compounds Detected in Soil. Complete results of the laboratory testing, as well as a copy of the Chain of Custody form used for sample transmittal are included in Appendix B, Analytical Results.

SUBSURFACE CONDITIONS

The site is located in an area entirely underlain by glacial till identified as the Wadsworth Member of the Wedron Formation. It is primarily a fine-grained till formed as a ground moraine during advance and retreat of the most recent of four major ice sheets to cover this region.

Bedrock in the vicinity is anticipated at depths of 200 ft. or greater.

The test borings generally encountered 0.5 to 1.0 ft. of topsoil underlain by glacial till. Descriptions of the deposits as encountered by the explorations follow:

- Topsoil was encountered in all test borings, generally consisting of brown-black silty LOAM, trace coarse to fine sand.

- Glacial Till was encountered beneath the topsoil in all test borings and generally consisted of very stiff to hard light brown clayey SILT, trace fine gravel and coarse to fine sand underlain by very stiff to hard gray silty CLAY, trace fine gravel and coarse to fine sand.

It is assumed that the upper few inches or more of the glacial till is actually fill or natural material disturbed by construction and grading activities, however the depth of this zone could not be determined by the test borings and thus it is not differentiated on the Test Boring Reports.

Conditions beneath the floor slab in the 408 Washington building generally consisted of 6 to 8 inches of gravel or crushed stone underlain by brown clayey silt.

Groundwater was not encountered in any of the four test borings, and soil samples obtained were generally described only as damp.

RESULTS AND DISCUSSION

The soil vapor sampling performed at the 408 Washington facility indicate the presence of several volatile organic compounds in the subsurface, as summarized in Table 1, Organic Compounds Detected in Soil Vapor.

The most prevalent compound detected was TCE, in concentrations as high as 5.510 parts per million (ppm). Toluene and Vinyl Chloride were detected in concentrations up to 1.590 ppm and 0.056 ppm, respectively. The remaining compounds were detected in trace amounts only.

In general the only significant concentrations of these compounds were observed in the vicinity of the previous degreaser and the southwestern floor drain of Bldg. 408. The concentrations of TCE generally diminish with distance from the degreaser and drain location in the directions sampled using the GC.

Laboratory analyses of soil samples was performed in areas where soil vapor concentrations and observed surface conditions indicated potential releases of oil or hazardous materials to have taken place.

Soil sample analyses from boreholes B1040-1 (1040 High St.) and B408-2 (408 Washington Blvd.) did not detect volatile organic compounds to be present in the subsurface at these locations.

Deep soil samples (8-10 ft.) from borehole B408-3 were found to contain concentrations of 0.153 ppm acetone and 0.016 ppm 2-butanone. The shallow samples from this same borehole had no volatile organics detected above the laboratory analytical detection limit. Both compounds are used individually as in combination with other solvents for parts cleaning. Although their actual use in the 408 Washington Blvd. building is undocumented their presence in the subsurface may have resulted from a release from this facility.

Toluene and TCE, whose use in this facility was documented in our investigation, were found to be present in soil samples taken through the building floor slab near soil vapor sample points CR-008 and CR-009 (see Table III).

The soil sample from adjacent to CR-009 contained 1.87 ppm TCE and the sample from adjacent to CR-008 contained 0.052 ppm and 4.28 ppm of Toluene and TCE, respectively. Their presence beneath the floor slab appears to have resulted from past release in the western 408 Washington Blvd. building area.

Our soil vapor and soil sample analytical information to date indicates release of the volatile organic compounds noted above at the 408 Washington Blvd. building to be the only apparent confirmed contaminant release from the Cheshire operation. The subsurface information gathered during the soil boring program showed the site groundwater surface to be in excess of 50 ft. in depth with relatively dense glacial till underlying all areas explored. Soil vapor data indicates the apparent areal extent of the organics contamination to be confined to and entirely beneath the western one-third of the 408 Washington Blvd. building. With the building acting as an impediment to infiltration of precipitation, and the other site geologic factors noted above the likelihood of significant progression of the contaminant from beneath the building and off the property appears low.

CONCLUSION

Based on our investigation of the 5 facility areas of the Cheshire Mundelein site it is the opinion of H&A of New York that a release of the volatile organic solvents Toluene and TCE has occurred to shallow soils at the western end of the Cheshire 408 Washington Blvd. building. Past operations information and our site sampling and analysis suggest the release may have resulted from operations in the spray room area of this building. Chemical analyses and site geologic data indicate contaminated area is confined to shallow soils below the building foundation slab.

It is our opinion that additional subsurface exploration and sampling would be necessary to adequately quantify the areal extent and concentration of the detected compounds beneath the building at 408 Washington Blvd. Remediation of the apparent release area, if necessary, would be evaluated following collection of this information.

Site history information, soil vapor screening and limited soil sample chemical analyses show no other apparent releases or presence of oil or hazardous materials at the other four Cheshire building locations. Transactions involving the remaining four facility buildings would appear to have few if any environmental impediments associated with them.

Lastly, it was requested of H&A to address the following points for the records of the potential purchaser of the Cheshire site:

- Identification of hazardous wastes - hazardous wastes generated at the site include waste solvents and PCB's in small electrical components. Both materials have been and will continue to be removed from the site by a licensed hazardous waste transporter.

- The Cheshire site operations generate hazardous wastes and are classified as a RCRA Small Quantity Generator.

- All site non-hazardous waste is disposed in a county sanitary landfill.

- No incineration of any waste occurs on site; storage of hazardous wastes on site is limited to the quantities generated in the course of 408 Washington Blvd. and 1040 High St. building operations as described.

- No disposal of hazardous materials down drains is practiced. Sanitary wastes generated within the facility leave the site through county sanitary sewer lines.

- No above ground or underground storage tanks are on the Cheshire site.

- Soil sample results showing detectable concentrations of toluene, TCE, acetone and n-butanone are included in this report.

It has been a pleasure working with you on this project. Please do not hesitate to contact us if you have any questions regarding this report.

Sincerely yours,
H&A OF NEW YORK

Vincent B. Dick
Senior Env. Geologist

Joseph J. Rixner, P.E.
Manager

VBD/JJR/cad
Enclosures:

Sources of Information
Table I - Organic Compounds Detected in Soil Vapor
Table II - Summary of Organic Compounds Detected in Soil
Figure 1 - Project Loci
Figure 2 - Generalized Site Conditions and Soil Vapor Sampling Plan
Figure 3 - Soil Vapor Sampling and Test Boring Location Plan - 408 Washington Blvd.
Appendix A - Test Boring Reports
Appendix B - Analytical Results
Appendix C - Xerox Corproration Enviornmental Site/Venture Assessment

SOURCES OF INFORMATION

1. H&A of New York, discussions with Mr. George Cortez of Cheshire during the period 2 through 4 March 1988.

2. _____, discussions with Mr. Jim Feight and Mr. Russ Goodnow, Cheshire, 15 and 16 March 1988.

3. _____, discussions with Mr. Ernie Majarucon, MacLean-Fogg Lock Nut Company, 4 March 1988.

4. _____, discussion with Mr. Al Kuhlman, Kanda, Ltd., 25 March 1988.

5. _____, discussion with Mr. Michael Lemmons, United Promotions, Inc., 30 March 1988.

6. _____, discussion with Mr. Jack Forney, J.C. Forney & Co. Realtors, 4 March 1988.

7. _____, discussions with Mr. Tony Deley, Illinois State Fire Marshall's office, Springfield, Illinois, 3 March 1988.

8. Mundeleine Fire Prevention Bureau, Mr. Mike Lawrence, 3 March 1988.

9. Village of Mundelein, Illinois, Building Inspector's Office, 2 and 3 March 1988.

10. Village of Libertyville, Illinois, Assessor's Office, 2 March 1988.

11. Lake County Regional Planning Dept., Waukegan, Illinois, 3 March 1988.

12. U.S.D.A. Soil Conservation Service, Grayslake, Illinois, 3 March 1988.

Tables

TABLE 1

ORGANIC COMPOUNDS DETECTED IN SOIL VAPOR
(PARTS PER MILLION)

SAMPLE LOCATION	VINCHL	C12DCE	TCE	TOL	PER
CR-1	n.d.	n.d.	n.d.	n.d.	n.d.
CR-2	n.d.	n.d.	0.237	n.d.	n.d.
CR-2 D	n.d.	n.d.	0.268	n.d.	n.d.
CR-3	n.d.	n.d.	n.d.	n.d.	n.d.
CR-4	n.d.	n.d.	0.154	n.d.	n.d.
CR-4 D	n.d.	n.d.	0.156	n.d.	n.d.
CR-5	n.d.	n.d.	n.d.	n.d.	n.d.
CR-6	n.d.	tr.	0.485	1.590	tr.
CR-6 D	n.d.	tr.	0.399	1.540	tr.
CR-7	n.d.	n.d.	0.938	n.d.	n.d.
CR-7 D	n.d.	n.d.	0.886	n.d.	n.d.
CR-8	n.d.	0.051	1.570	tr.	n.d.
CR-8 D	n.d.	tr.	2.550	tr.	n.d.
CR-9	n.d.	tr.	2.810	n.d.	n.d.
CR-9 D	n.d.	tr.	5.510	n.d.	n.d.
CR-10	n.d.	n.d.	0.791	n.d.	n.d.
CR-10 D	n.d.	n.d.	0.864	n.d.	n.d.
CR-11	n.d.	n.d.	1.630	0.095	n.d.
CR-11 D	n.d.	n.d.	4.690	tr.	n.d.
CR-12	n.d.	n.d.	1.590	n.d.	tr.
CR-12 D	n.d.	n.d.	1.570	n.d.	tr.
CR-13	n.d.	n.d.	0.249	n.d.	n.d.
CR-13 D	n.d.	n.d.	0.240	n.d.	n.d.
CR-14	n.d.	n.d.	tr.	n.d.	n.d.
CR-14 D	n.d.	n.d.	tr.	n.d.	n.d.
CR-15	n.d.	n.d.	n.d.	n.d.	n.d.
CR-15 D	n.d.	n.d.	n.d.	n.d.	n.d.
CR-16	n.d.	n.d.	n.d.	n.d.	n.d.
CR-17	n.d.	n.d.	n.d.	n.d.	n.d.
CR-18	n.d.	n.d.	tr.	n.d.	n.d.
CR-19	n.d.	n.d.	tr.	n.d.	n.d.
CR-20	tr.	n.d.	n.d.	n.d.	n.d.
CR-21	n.d.	n.d.	n.d.	n.d.	n.d.
CR-22	tr.	n.d.	n.d.	n.d.	n.d.
CR-23	tr.	n.d.	n.d.	n.d.	n.d.
CR-24	0.054	n.d.	n.d.	0.058	n.d.
CR-25	tr.	n.d.	n.d.	n.d.	n.d.
CR-26	0.056	n.d.	n.d.	n.d.	n.d.
CR-27	n.d.	n.d.	n.d.	n.d.	n.d.
CR-28	n.d.	n.d.	n.d.	n.d.	n.d.
CR-29	tr.	n.d.	0.160	tr.	tr.
CR-29 D	tr.	n.d.	0.150	tr.	tr.
CR-30	tr.	n.d.	0.115	tr.	tr.
CR-30 D	n.d.	n.d.	0.093	tr.	tr.
CR-31	n.d.	n.d.	n.d.	n.d.	n.d.
CR-32	n.d.	n.d.	n.d.	n.d.	n.d.

TABLE 1

ORGANIC COMPOUNDS DETECTED IN SOIL VAPOR
(PARTS PER MILLION)

SAMPLE LOCATION	VINCHL	C12DCE	TCE	TOL	PER
CR-33	n.d.	n.d.	n.d.	n.d.	n.d.
CR-34	n.d.	n.d.	n.d.	n.d.	n.d.
CR-35	n.d.	n.d.	n.d.	n.d.	n.d.
CR-36	n.d.	n.d.	n.d.	n.d.	n.d.
CR-37	n.d.	n.d.	n.d.	n.d.	n.d.
CR-37 D	n.d.	n.d.	n.d.	n.d.	n.d.
CR-38	n.d.	n.d.	n.d.	n.d.	n.d.
CR-39	n.d.	n.d.	n.d.	n.d.	n.d.
CR-40	n.d.	n.d.	n.d.	n.d.	n.d.
CR-41	n.d.	n.d.	n.d.	n.d.	n.d.
CR-42	n.d.	n.d.	n.d.	n.d.	n.d.
CR-43	n.d.	n.d.	n.d.	n.d.	n.d.
CR-44	n.d.	n.d.	n.d.	n.d.	n.d.
CR-45	n.d.	n.d.	n.d.	n.d.	n.d.
CR-46	n.d.	n.d.	n.d.	n.d.	n.d.
CR-47	n.d.	n.d.	n.d.	n.d.	n.d.

NOTES:

1. Refer to Figures 3 through 5 for sample location plans.

2. Compound Headings:

   VINCHL = vinyl chloride
   C12DCE = cis-1,2-dichloroethene
   TCE = trichloroethene
   TOL = toluene
   PER = tetrachloroethene

3. D denotes duplicate sample.
   tr. indicates detected concentration of less than .050 ppm.
   n.d. means compound not detected.

4. Sampling performed in the field using a Photovac 10S50 Gas Chromatograph. Concentrations listed are semi-quantitative only and not intended to supersede laboratory analysis of soils. Refer to report text for discussion.

5. Standards reference library used in field:

vinyl chloride	.126 ppm
trans-1,2-dichloroethene	.314
cis-1,2-dichloroethene	.319
trichloroethene	.364
tetrachloroethene	.409
benzene	.218
toluene	.323
meta-xylene	.537
ortho-xylene	.547

TABLE II

SUMMARY OF
ORGANIC COMPOUNDS DETECTED IN SOIL
(PARTS PER MILLION)

Sample Location and Depth (ft)	ACETONE	2-BUTANONE	TOLUENE	TRICHLOROETHENE
B408-3 8.0-10.0	0.153	0.016	BDL	BDL
CR-008 1.5-2.0	BDL	BDL	0.052	4.28
CR-009 1.5-2.0	BDL	BDL	BDL	1.87

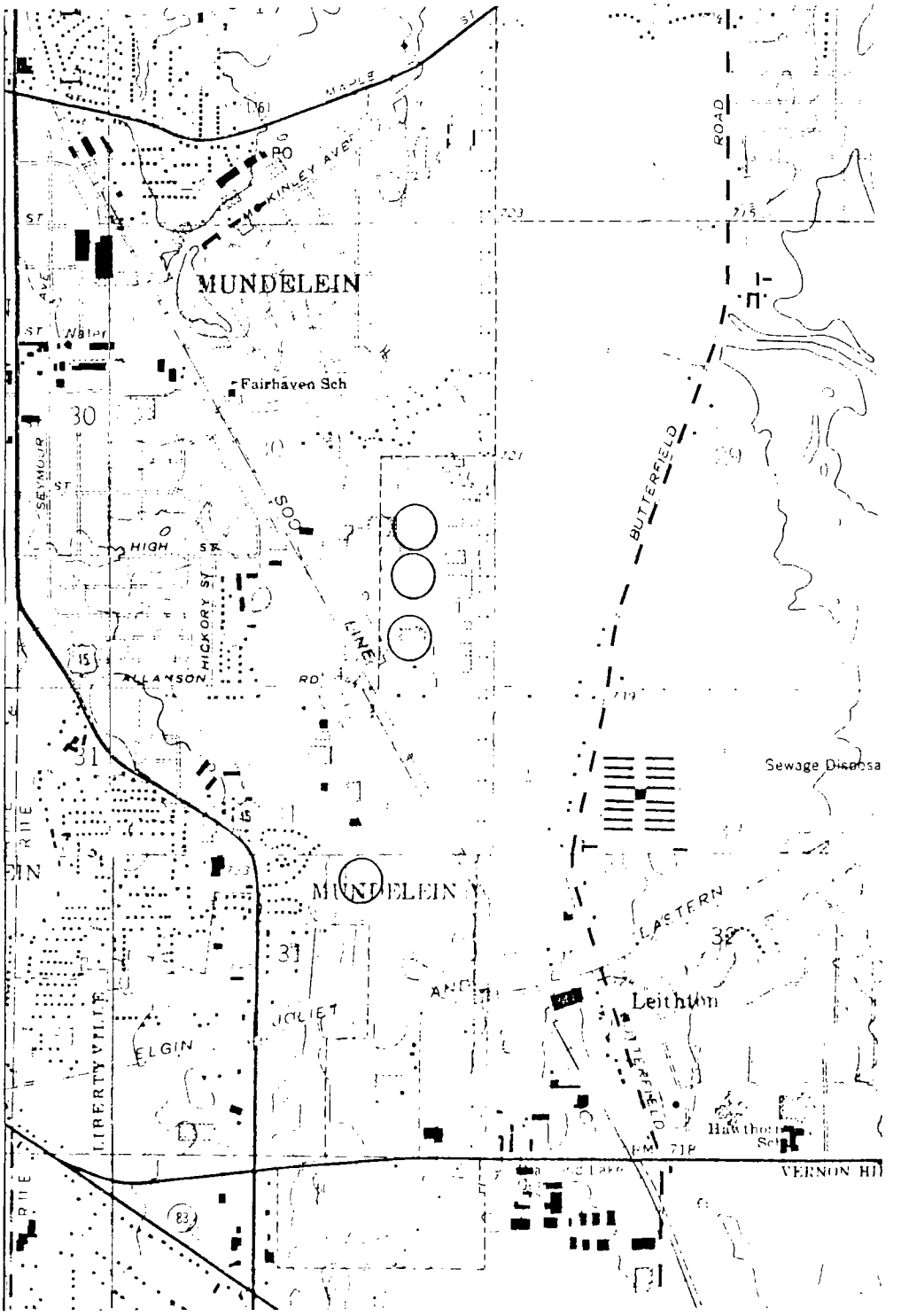
Notes:

1. Refer to Figures 3 through 5 for sample location plans.

2. BDL (below detectable limit) indicates compound not present in detectable concentration for the laboratory analytical method used.

3. Refer to Appendix D, Analytical Results, for complete listing of samples tested and compounds included in the analyses.

Figures



ILLINOIS

QUADRANGLE LOCATION

0 .5

SCALE (MILES)

H&A of New York

Consulting Geotechnical Engineers, Geologists and Hydrogeologists

OIL AND HAZARDOUS MATERIAL SITE EVALUATION
XEROX-CHESHIRE
MUNDELEIN, ILLINOIS

PROJECT LOCI

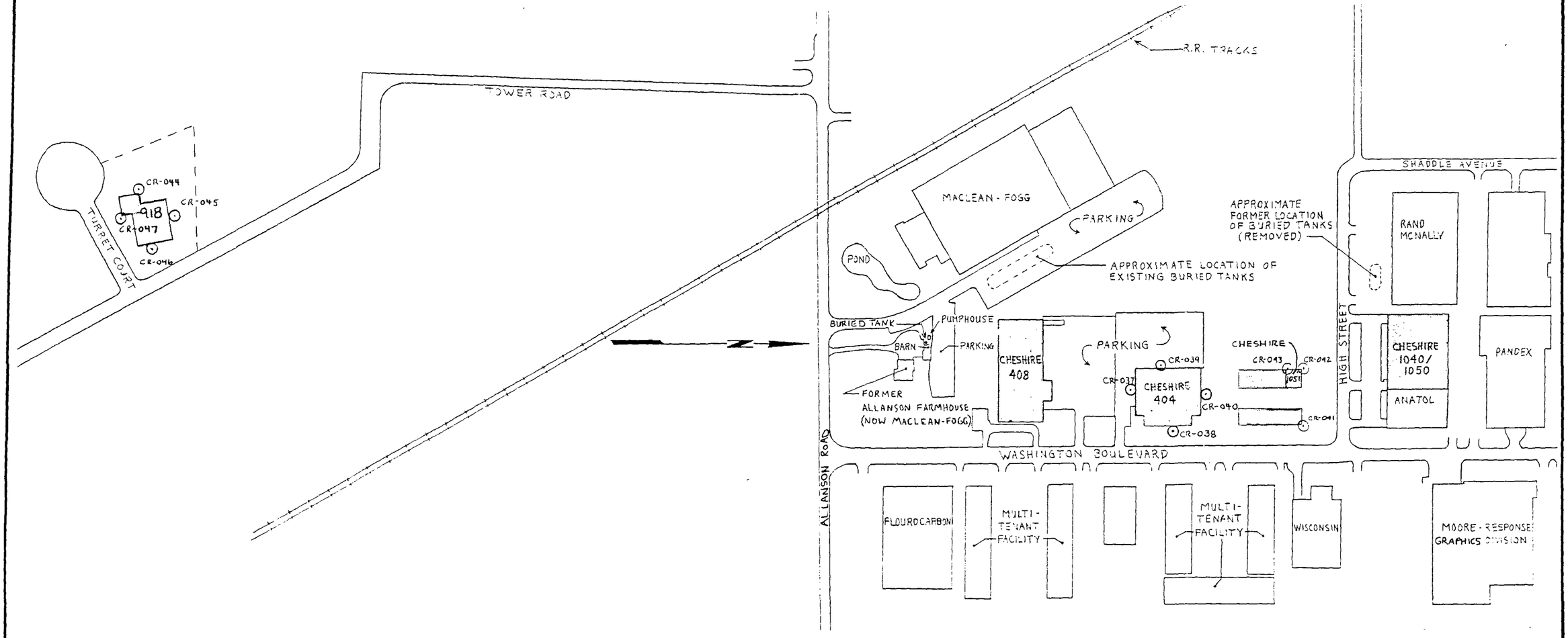
SCALE AS SHOWN

MARCH 1988

FILE NO. 761114

CHARRETTE

FIGURE 1



NOTES:

1. PLAN ADAPTED FROM AN AERIAL PHOTO DATED SPRING 1986, BY THE SIDWELL COMPANY AND A PLAN ENTITLED VILLAGE OF MUNDELEIN, ZONING DISTRICT MAP, DATED 12 MARCH 1985 BY HARLAND BARTHOLOMEW & ASSOCIATES, INC. LOCATIONS OF BUILDINGS, FEATURES AND SAMPLING POINTS ARE APPROXIMATE ONLY.
2. SEE FIGURES 3 AND 4 FOR LOCATIONS OF SOIL VAPOR SAMPLES AND TEST BORINGS AT 408 WASHINGTON BLVD. AND 1040 HIGH ST.
3. SOIL VAPOR SAMPLING PERFORMED BY H&A OF NEW YORK DURING THE PERIOD 14 THROUGH 18 MARCH 1988.
4. SEE ACCOMPANYING REPORT FOR DISCUSSION OF SAMPLING RESULTS AND ADDITIONAL INFORMATION.

LEGEND:

⊙CR-038 NUMBER AND APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE

FACILITY CURRENTLY OCCUPIED BY CHESHIRE

0 100 200 300
APPROXIMATE SCALE IN FEET

H&A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

OIL AND HAZARDOUS MATERIAL SITE EVALUATION
XEROX-CHESHIRE
MUNDELEIN, ILLINOIS

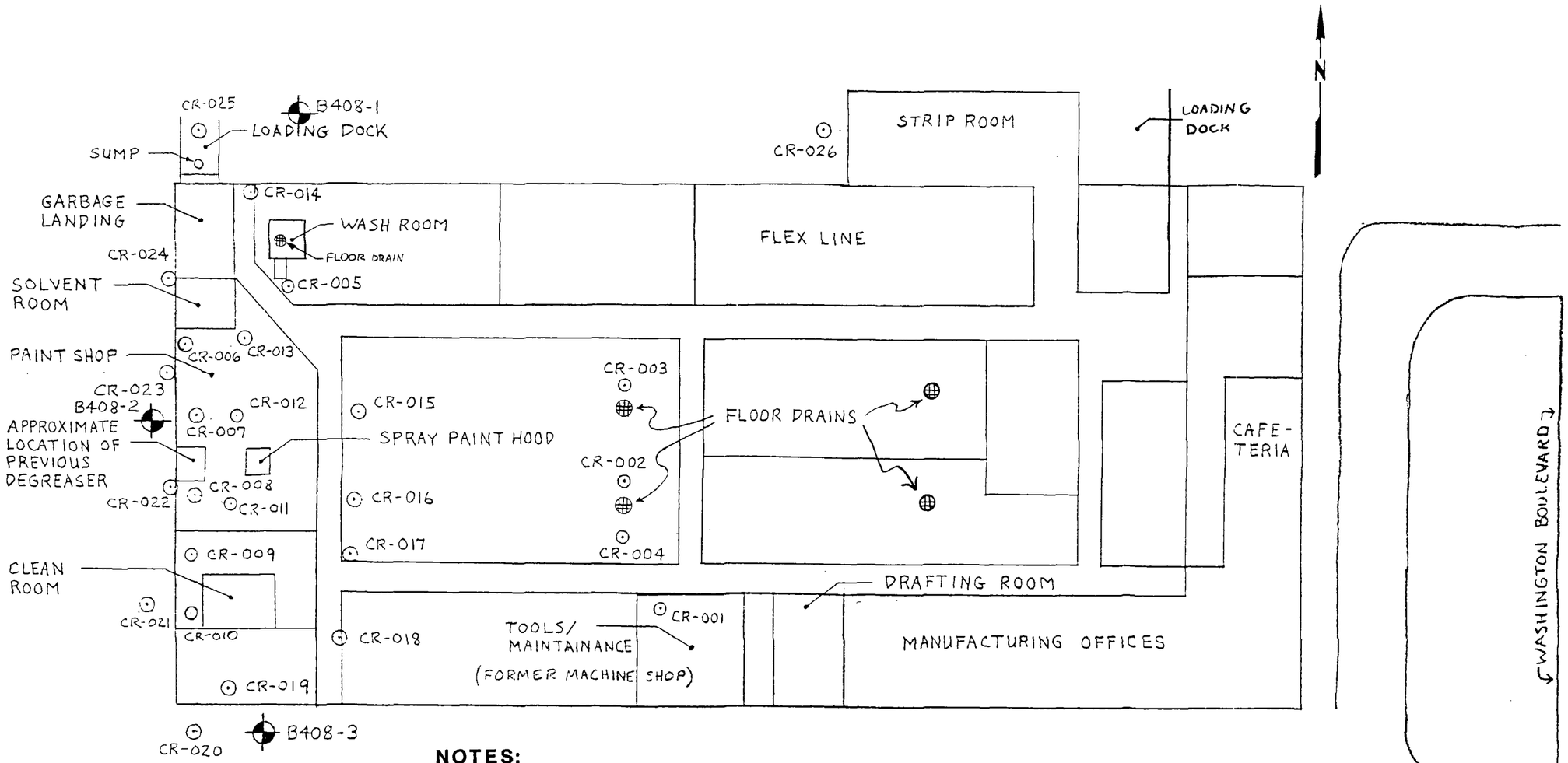
GENERALIZED SITE CONDITIONS AND SOIL VAPOR SAMPLING PLAN

SCALE AS SHOWN MARCH 1988

FIGURE 2

FILE NO. 761114

CHARRETTE



LEGEND:

CR-001 ⊙ NUMBER AND APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE

B408-1 ⊕ NUMBER AND APPROXIMATE LOCATION OF TEST BORING

NOTES:

1. PLAN ADAPTED FROM AN UNDATED PLAN ENTITLED "408 WASHINGTON BOULEVARD", PROVIDED BY CHESHIRE.
2. LOCATIONS OF TEST BORINGS AND SOIL VAPOR SAMPLES WERE PROVIDED BY H&A OF NEW YORK AND ARE APPROXIMATE ONLY.
3. LOCATIONS OF SOME WORK AREAS AND FEATURES WITHIN THE BUILDING LIMITS ARE APPROXIMATE ONLY.
4. TEST BORINGS PERFORMED BY ENGINEERS INTERNATIONAL, INC., OF WESTMONT, ILLINOIS, UNDER THE OBSERVATION OF H&A OF NEW YORK, DURING THE PERIOD 16 THROUGH 17 MARCH 1988.
5. SOIL VAPOR SAMPLING PERFORMED BY H&A OF NEW YORK DURING THE PERIOD 14 THROUGH 16 MARCH 1988.

APPROXIMATE SCALE
(FEET)
0 10 20 30

H&A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

OIL AND HAZARDOUS MATERIAL SITE EVALUATION
XEROX-CHESHIRE
MUNDELEIN, ILLINOIS

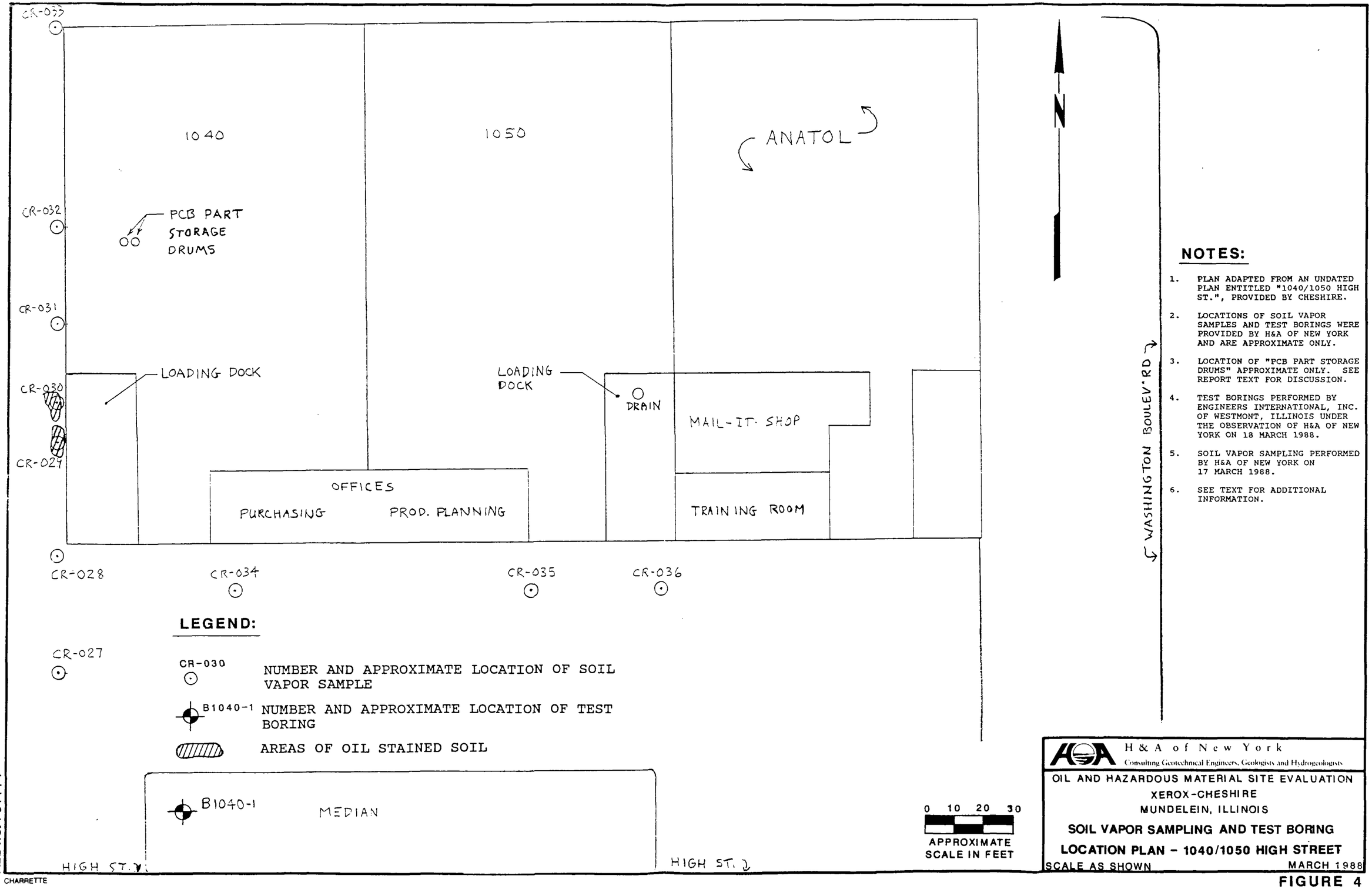
SOIL VAPOR SAMPLING AND TEST BORING LOCATION PLAN - 408 WASHINGTON BOULEVARD

SCALE AS SHOWN MARCH 1988

FIGURE 3

FILE NO. 761114

CHARRETTE



NOTES:

1. PLAN ADAPTED FROM AN UNDATED PLAN ENTITLED "1040/1050 HIGH ST.", PROVIDED BY CHESHIRE.
2. LOCATIONS OF SOIL VAPOR SAMPLES AND TEST BORINGS WERE PROVIDED BY H&A OF NEW YORK AND ARE APPROXIMATE ONLY.
3. LOCATION OF "PCB PART STORAGE DRUMS" APPROXIMATE ONLY. SEE REPORT TEXT FOR DISCUSSION.
4. TEST BORINGS PERFORMED BY ENGINEERS INTERNATIONAL, INC. OF WESTMONT, ILLINOIS UNDER THE OBSERVATION OF H&A OF NEW YORK ON 18 MARCH 1988.
5. SOIL VAPOR SAMPLING PERFORMED BY H&A OF NEW YORK ON 17 MARCH 1988.
6. SEE TEXT FOR ADDITIONAL INFORMATION.

H&A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

OIL AND HAZARDOUS MATERIAL SITE EVALUATION
XEROX-CHESHIRE
MUNDELEIN, ILLINOIS

SOIL VAPOR SAMPLING AND TEST BORING LOCATION PLAN - 1040/1050 HIGH STREET

SCALE AS SHOWN MARCH 1988

FILE NO. 761114

CHARRETTE

FIGURE 4

Appendix A

APPENDIX A

TEST BORING REPORTS

BY
H&A OF NEW YORK

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

TEST BORING REPORT

BORING NO. B408-1

PROJECT CHESHIRE -- MUNDELEIN, ILLINOIS
CLIENT XEROX CORPORATION
CONTRACTOR ENGINEERS INTERNATIONAL, INC.

FILE NO. 761114
SHEET NO. 1 OF 2
LOCATION See Plan
ELEVATION
DATUM
START 16 March 1988
FINISH 16 March 1988
DRILLER G. Anderson
H&A REP J. Talpey/J. Fitch

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4 1/4	1 3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Mobile B-47 Truck-mounted
BIT TYPE ---
DRILL MUD ---
OTHER Advanced augers to 50.0 ft.

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		5, 9	S1	0.0	1.0	Medium dense dark brown to black silty LOAM, damp, trace organics. -TOPSOIL-
		7, 9	12"/24"	2.0		Medium dense light brown SILT, little gravel and clay, damp, trace iron-staining.
		4, 7, 9, 9	S2 16"/24"	2.0 4.0		Very stiff light brown clayey SILT, trace fine gravel and coarse to fine sand, damp, iron-staining.
5		7, 7, 9, 15	S3 19"/24"	4.0 6.0		Very stiff light brown silty CLAY, trace fine gravel and coarse to fine sand, damp.
		6, 7, 11, 14	S4 18"/24"	6.0 8.0		Same. -GLACIAL TILL-
		6, 8, 11, 12	S5 24"/24"	8.0 10.0		Very stiff gray to brown mottled silty CLAY, trace fine gravel and coarse to fine sand, damp.
10		10, 12, 15, 17	S6 24"/24"	10.0 12.0	10.0	Very stiff gray silty CLAY, trace fine gravel and coarse to fine sand, damp. -GLACIAL TILL-
15		8, 14, 18, 18	S7 24"/24"	15.0 17.0		Same, except hard.
20		6, 10, 13, 14	S8 24"/24"	20.0 22.0		Same.
25		6, 9, 10, 13	S9 24"/24"	25.0 27.0		Same, with layer of fine sandy CLAY at 26.5 ft., moist.
30						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
--	BORING DRY AT COMPLETION	--			

SAMPLE IDENTIFICATION
O OPEN END ROD
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (LIN FT)	52.0
ROCK CORED (LIN FT)	--
SAMPLES	14S

BORING NO. B408-1

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

TEST BORING REPORT

BORING NO. B408-1
FILE NO. 761114
SHEET NO. 2 OF 2

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
30		12 14 22 21	S10 24"/24"	30.0 32.0		Hard gray silty CLAY, trace fine gravel and coarse to fine sand, damp. -GLACIAL TILL-
35		10 16 16 19	S11 24"/24"	35.0 37.0		Same.
40		9 16 20 22	S12 24"/24"	40.0 42.0		Same.
45		8 13 18 19	S13 24"/24"	45.0 47.0		Same.
50		9 12 17 14	S14 24"/24"	50.0 52.0		Same.
						Bottom of Boring at 52.0 ft.
55						Borehole backfilled to approximately 20 ft., then grouted to surface.
60						

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

TEST BORING REPORT

BORING NO. B408-2

PROJECT CHESHIRE -- MUNDELEIN, ILLINOIS
CLIENT XEROX CORPORATION
CONTRACTOR ENGINEERS INTERNATIONAL, INC.

FILE NO. 761114
SHEET NO. 1 OF 1
LOCATION See Plan
ELEVATION
DATUM
START 17 March 1988
FINISH 17 March 1988
DRILLER G. Anderson
H&A REP J. Fitch

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4 1/4	1 3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Mobile B47 Truck-mounted
BIT TYPE ---
DRILL MUD ---
OTHER Advanced augers to 23.0 ft.

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		4	S1A	0.0-0.7	0.7	Medium dense black-brown silty LOAM, trace coarse to fine sand and organics, damp. -TOPSOIL-
		7	S1B	0.7		Very stiff light brown clayey SILT, trace coarse to fine sand, damp.
		8				Same.
		10	14"/24"	2.0		-GLACIAL TILL-
		8	S2	2.0		
		10				
		12				
		15	17"/24"	4.0		
		8	S3	4.0		Same.
5		10				
		12				
		17	24"/24"	6.0		
		9	S4	6.0		Same, except hard, red-brown, iron-stained.
		19			7.0	
		30				Hard gray-brown silty CLAY, trace fine gravel and coarse to fine sand, damp.
		30	24"/24"	8.0		
		15	S5	8.0		Hard gray silty CLAY, trace fine gravel and coarse to fine sand, damp.
		24				
		27				
10		30	24"/24"	10.0		-GLACIAL TILL-
		12	S6	13.0		Same.
		22				
		26				
15		35	24"/24"	15.0		
		8	S7	18.0		Same, except very stiff.
		5				
		10				
20		18	24"/24"	20.0		
		4	S8	23.0		Same, except very stiff.
		7				
		11				
25		15	24"/24	25.0		
						Bottom of Boring at 25.0 ft.
						Borehole backfilled to approximately 16 ft., then grouted to surface.
30						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
	BORING DRY AT COMPLETION				

SAMPLE IDENTIFICATION
O OPEN END ROD
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (LIN FT)	25.0
ROCK CORED (LIN FT)	--
SAMPLES	8S

BORING NO. B408-2

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

TEST BORING REPORT

BORING NO. B408-3

PROJECT CHESHIRE -- MUNDELEIN, ILLINOIS
CLIENT XEROX CORPORATION
CONTRACTOR ENGINEERS INTERNATIONAL, INC.

FILE NO. 761114
SHEET NO. 1 OF 1

LOCATION See Plan
ELEVATION
DATUM
START 17 March 1988
FINISH 17 March 1988
DRILLER G. Anderson
H&A REP J. Fitch

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4 1/4	1 3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Mobile B-47 Truck-mounted
BIT TYPE ---
DRILL MUD ---
OTHER Advanced augers to 13.0 ft.

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		9 12 12 16	S1A S1B 12"/24"	0.0 2.0	0.5	Dense dark brown-black silty LOAM, trace coarse to fine sand and organics, damp. -TOPSOIL-
		10 12 15 14	S2 18"/24"	2.0 4.0		Very stiff light-brown clayey SILT, trace gravel and coarse to fine sand, damp, trace iron-staining. Same. -GLACIAL TILL-
		6 10 13 18	S3 24"/24"	4.0 6.0	6.0	Same, except red-brown.
		9 18 25 22	S4 24"/24"	6.0 8.0		Hard gray silty CLAY, trace fine gravel and coarse to fine sand, damp, laminae of red-brown clayey SILT.
		12 17 20 26	S5 24"/24"	8.0 10.0		Same. -GLACIAL TILL-
		7 11 14 17	S6 18"/24"	13.0 15.0		Same, except very stiff. -GLACIAL TILL-
						Bottom of Boring at 15.0 ft. Borehole backfilled to approximately 16 ft., then grouted to surface.

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
	BORING DRY AT COMPLETION				

SAMPLE IDENTIFICATION
O OPEN END ROD
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON

SUMMARY

OVERBURDEN (LIN FT)	15.0
ROCK CORED (LIN FT)	--
SAMPLES	6S

BORING NO. B408-3

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

TEST BORING REPORT

BORING NO. B1040-1

PROJECT CHESHIRE -- MUNDELEIN, ILLINOIS
CLIENT XEROX CORPORATION
CONTRACTOR ENGINEERS INTERNATIONAL, INC.

FILE NO. 761114
SHEET NO. 1 OF 1

LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4 1/4	1 3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Mobile B-47 Truck-mounted
BIT TYPE ---
DRILL MUD ---
OTHER Advanced augers to 18.0 ft.

ELEVATION
DATUM
START 18 March 1988
FINISH 18 March 1988
DRILLER G. Anderson
H&A REP J. Fitch

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		4	S1A	0.0-0.5	0.5	Medium dense brown-black silty LOAM, trace coarse to fine sand and organics, damp. -TOPSOIL-
		5	S1B	0.5		
		12				Very stiff light brown clayey SILT, trace fine gravel
		14	12"/24"	2.0		and coarse to fine sand, damp, trace iron-staining.
		12	S2	2.0		Same.
		11				
		11				-GLACIAL TILL-
		11	18"/24"	4.0		
		4	S3	4.0		Same, except stiff.
5		5				
		6				
		7	16"/24"	6.0		
		4	S4	6.0		Same, except stiff.
		5				
		8				
		10	24"/24"	8.0		
		7	S5	8.0		Very stiff light brown to brown-gray silty CLAY, trace fine gravel and coarse to fine sand, damp.
		10				
		10				
		12	24"/24"	10.0		
10						-GLACIAL TILL-
		6	S6	13.0	13.0	Very stiff gray silty CLAY, trace fine gravel and coarse to fine sand, damp.
		10				
		14				
		16	24"/24"	15.0		
15						
		7	S7	18.0		Same.
		11				
		11				-GLACIAL TILL-
		15	24"/24"	20.0		
20						Bottom of Boring at 20.0 ft.
						Boring backfilled to surface.
25						
30						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	WATER

SAMPLE IDENTIFICATION

O	OPEN END ROD
T	THIN WALL TUBE
U	UNDISTURBED SAMPLE
S	SPLIT SPOON

SUMMARY

OVERBURDEN (LIN FT)	20.0
ROCK CORED (LIN FT)	--
SAMPLES	8S

BORING NO. B1040-1

Appendix B

APPENDIX B

ANALYTICAL RESULTS

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD, PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

TO: H&A of New York
189 North Water Street
Rochester, NY 14604
ATTN: Vince Dick/Suzanne Wheatcrest

REPORT DATE: 3-28-88
DATE REC'D.: 3-21-88
PROJECT NO.: 2-0920.001.01
P.O. NUMBER:

RAI SAMPLE #	880321-15	880321-16	880321-17
DATE SAMPLED:	3-17-88	3-17-88	3-18-88
DESCRIPTION:	B408-2,S2 2.0-4.0'	B408-2,S5 8.0-10.0'	CR-030 0-0.2'
VOLATILE TARGET COMPOUNDS			
Acetone	< 10.	< 10.	< 10.
Benzene	< 5.	< 5.	< 5.
Bromoform	< 5.	< 5.	< 5.
Bromomethane	< 10.	< 10.	< 10.
2-Butanone	< 10.	< 10.	< 10.
Carbon Disulfide	< 10.	< 10.	< 10.
Carbon Tetrachloride	< 5.	< 5.	< 5.
Chlorobenzene	< 5.	< 5.	< 5.
Chlorodibromomethane	< 10.	< 10.	< 10.
Chloroethane	< 10.	< 10.	< 10.
2-Chloroethylvinyl Ether	< 10.	< 10.	< 10.
Chloroform	< 5.	< 5.	< 5.
Chloromethane	< 10.	< 10.	< 10.
Dichlorobromomethane	< 5.	< 5.	< 5.
1,1-Dichloroethane	< 5.	< 5.	< 5.
1,2-Dichloroethane	< 5.	< 5.	< 5.
1,1-Dichloroethene	< 5.	< 5.	< 5.
Cis-1,2-Dichloroethene	< 5.	< 5.	< 5.
Trans-1,2-Dichloroethene	< 5.	< 5.	< 5.
1,2-Dichloropropane	< 5.	< 5.	< 5.
Cis-1,3-Dichloropropene	< 5.	< 5.	< 5.
Trans-1,3-Dichloropropene	< 5.	< 5.	< 5.
Ethylbenzene	< 5.	< 5.	< 5.
2-Hexanone	< 10.	< 10.	< 10.
Methylene Chloride	< 5.	< 5.	< 5.
4-Methyl-2-Pentanone	< 10.	< 10.	< 10.
Styrene	< 5.	< 5.	< 5.
Tetrachloroethene	< 5.	< 5.	< 5.
1,1,2,2-Tetrachloroethane	< 5.	< 5.	< 5.
Toluene	< 5.	< 5.	< 5.
1,1,1-Trichloroethane	< 5.	< 5.	< 5.
1,1,2-Trichloroethane	< 5.	< 5.	< 5.
Trichloroethene	< 5.	< 5.	< 5.
Total Xylenes	< 5.	< 5.	< 5.
Vinyl Acetate	< 10.	< 10.	< 10.
Vinyl Chloride	< 10.	< 10.	< 10.

REPORT APPROVED BY: Barbara G. Raya-Hash
Barbara G. Raya-Hash, Manager
Laboratory Operations

All results in ug/kg (ppb) unless otherwise indicated.
jmt/L:120

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD, PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

TO: H&A of New York
189 North Water Street
Rochester, NY 14604
ATTN: Vince Dick/Suzanne Wheatcrest

REPORT DATE: 3-28-88
DATE REC'D.: 3-21-88
PROJECT NO.: 2-0920.001.01
P.O. NUMBER:

RAI SAMPLE #	880321-18	880321-19	880321-20
DATE SAMPLED:	3-18-88	3-18-88	3-18-88
DESCRIPTION:	CR-030 1.2-1.5'	B408-3 2.0-4.0'	B408-3 8.0-10.0'
VOLATILE TARGET COMPOUNDS			
Acetone	< 10.	< 10.	153.
Benzene	< 5.	< 5.	< 5.
Bromoform	< 5.	< 5.	< 5.
Bromomethane	< 10.	< 10.	< 10.
2-Butanone	< 10.	< 10.	16.
Carbon Disulfide	< 10.	< 10.	< 10.
Carbon Tetrachloride	< 5.	< 5.	< 5.
Chlorobenzene	< 5.	< 5.	< 5.
Chlorodibromomethane	< 10.	< 10.	< 10.
Chloroethane	< 10.	< 10.	< 10.
2-Chloroethylvinyl Ether	< 10.	< 10.	< 10.
Chloroform	< 5.	< 5.	< 5.
Chloromethane	< 10.	< 10.	< 10.
Dichlorobromomethane	< 5.	< 5.	< 5.
1,1-Dichloroethane	< 5.	< 5.	< 5.
1,2-Dichloroethane	< 5.	< 5.	< 5.
1,1-Dichloroethene	< 5.	< 5.	< 5.
Cis-1,2-Dichloroethene	< 5.	< 5.	< 5.
Trans-1,2-Dichloroethene	< 5.	< 5.	< 5.
1,2-Dichloropropane	< 5.	< 5.	< 5.
Cis-1,3-Dichloropropene	< 5.	< 5.	< 5.
Trans-1,3-Dichloropropene	< 5.	< 5.	< 5.
Ethylbenzene	< 5.	< 5.	< 5.
2-Hexanone	< 10.	< 10.	< 10.
Methylene Chloride	< 5.	< 5.	< 5.
4-Methyl-2-Pentanone	< 10.	< 10.	< 10.
Styrene	< 5.	< 5.	< 5.
Tetrachloroethene	< 5.	< 5.	< 5.
1,1,2,2-Tetrachloroethane	< 5.	< 5.	< 5.
Toluene	< 5.	< 5.	< 5.
1,1,1-Trichloroethane	< 5.	< 5.	< 5.
1,1,2-Trichloroethane	< 5.	< 5.	< 5.
Trichloroethene	< 5.	< 5.	< 5.
Total Xylenes	< 5.	< 5.	< 5.
Vinyl Acetate	< 10.	< 10.	< 10.
Vinyl Chloride	< 10.	< 10.	< 10.

REPORT APPROVED BY: Barbara G. Raya-Hash
Barbara G. Raya-Hash, Manager
Laboratory Operations

All results in ug/kg (ppb) unless otherwise indicated.
jmt/L:120

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

TO: H&A of New York
189 North Water Street
Rochester, NY 14604
ATTN: Vince Dick/Suzanne Wheatcrest

REPORT DATE: 3-28-88
DATE REC'D.: 3-21-88
PROJECT NO.: 2-0920.001.01
P.O. NUMBER:

RAI SAMPLE #	880321-21	880321-22
DATE SAMPLED:	3-18-88	3-18-88
DESCRIPTION:	CR-8 1.5-2.0'	CR-9 1.5-2.0'
VOLATILE TARGET COMPOUNDS		
Acetone	< 10.	< 10.
Benzene	< 5.	< 5.
Bromoform	< 5.	< 5.
Bromomethane	< 10.	< 10.
2-Butanone	< 10.	< 10.
Carbon Disulfide	< 10.	< 10.
Carbon Tetrachloride	< 5.	< 5.
Chlorobenzene	< 5.	< 5.
Chlorodibromomethane	< 10.	< 10.
Chloroethane	< 10.	< 10.
2-Chloroethylvinyl Ether	< 10.	< 10.
Chloroform	< 5.	< 5.
Chloromethane	< 10.	< 10.
Dichlorobromomethane	< 5.	< 5.
1,1-Dichloroethane	< 5.	< 5.
1,2-Dichloroethane	< 5.	< 5.
1,1-Dichloroethene	< 5.	< 5.
Cis-1,2-Dichloroethene	< 5.	< 5.
Trans-1,2-Dichloroethene	< 5.	< 5.
1,2-Dichloropropane	< 5.	< 5.
Cis-1,3-Dichloropropene	< 5.	< 5.
Trans-1,3-Dichloropropene	< 5.	< 5.
Ethylbenzene	< 5.	< 5.
2-Hexanone	< 10.	< 10.
Methylene Chloride	< 5.	< 5.
4-Methyl-2-Pentanone	< 10.	< 10.
Styrene	< 5.	< 5.
Tetrachloroethene	< 5.	< 5.
1,1,2,2-Tetrachloroethane	< 5.	< 5.
Toluene	52.	< 5.
1,1,1-Trichloroethane	< 5.	< 5.
1,1,2-Trichloroethane	< 5.	< 5.
Trichloroethene	4280.	1870.
Total Xylenes	< 5.	< 5.
Vinyl Acetate	< 10.	< 10.
Vinyl Chloride	< 10.	< 10.

REPORT APPROVED BY: Barbara G. Raya-Hash
Barbara G. Raya-Hash, Manager
Laboratory Operations

All results in ug/kg (ppb) unless otherwise indicated.
jmt/L:120

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD, PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

TO: H&A of New York
189 North Water Street
Rochester, NY 14604
ATTN: Vince Dick/Suzanne Wheatcrest

REPORT DATE: 3-30-88
DATE REC'D.: 3-21-88
PROJECT NO.: 2-0920.001.01
P.O. NUMBER:

RAI SAMPLE #:	880321-17	880321-18
DATE SAMPLED:	3-18-88	3-18-88
DESCRIPTION:	CR-030 0-2.0'	CR-030 1.2-1.5'
BASE-NEUTRAL TARGET COMPOUNDS		
Acenaphthene	< 330.	< 330.
Acenaphthylene	< 330.	< 330.
Anthracene	< 330.	< 330.
Benzo (A) Anthracene	< 330.	< 330.
Benzo (A) Pyrene	< 330.	< 330.
Benzo (B) Fluoranthene	< 330.	< 330.
Benzo (GHI) Perylene	< 330.	< 330.
Benzo (K) Fluoranthene	< 330.	< 330.
Bis (2-chloroethoxy) Methane	< 330.	< 330.
Bis (2-chloroethyl) Ether	< 330.	< 330.
Bis (2-chloroisopropyl) Ether	< 330.	< 330.
Bis (2-ethylhexyl) Phthalate	< 330.	< 330.
4-Bromophenyl Phenyl Ether	< 330.	< 330.
Butyl Benzyl Phthalate	< 330.	< 330.
2-Chloronaphthalene	< 330.	< 330.
4-Chlorophenyl Phenyl Ether	< 330.	< 330.
Chrysene	< 330.	< 330.
Dibenzo (A,H) Anthracene	< 330.	< 330.
1,2-Dichlorobenzene	< 330.	< 330.
1,3-Dichlorobenzene	< 330.	< 330.
1,4-Dichlorobenzene	< 330.	< 330.
3,3'-Dichlorobenzidine	< 660.	< 660.
Diethyl Phthalate	< 330.	< 330.
Dimethyl Phthalate	< 330.	< 330.
Di-N-Butyl Phthalate	< 330.	< 330.
2,4-Dinithrotoluene	< 330.	< 330.
2,6-Dinitrotoluene	< 330.	< 330.
Di-N-Octyl Phthalate	< 330.	< 330.
Fluoranthene	< 330.	< 330.
Fluorene	< 330.	< 330.
Hexachlorobenzene	< 330.	< 330.
Hexachlorobutadiene	< 330.	< 330.
Hexachlorocylopentadiene	< 330.	< 330.
Hexachloroethane	< 330.	< 330.

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD, PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

Organic Priority Pollutant
Base Neutral Target Compounds
Laboratory Analysis Report
Page 2

RAI SAMPLE #:	880321-17	880321-18
DATE SAMPLED:	3-18-88	3-18-88
DESCRIPTION:	CR-030 0-2.0'	CR-030 1.2-1.5'
Indeno (1,2,3-CD) Pyrene	< 330.	< 330.
Isophorone	< 330.	< 330.
Naphthalene	< 330.	< 330.
Nitrobenzene	< 330.	< 330.
N-Nitrosodi-N-Propylamine	< 330.	< 330.
N-Nitrosodiphenylamine	< 330.	< 330.
Phenanthrene	< 330.	< 330.
Pyrene	< 330.	< 330.
1,2,4-Trichlorobenzene	< 330.	< 330.
4-Chloroaniline	< 330.	< 330.
2-Nitroaniline	< 1600.	< 1600.
3-Nitroaniline	< 1600.	< 1600.
4-Nitroaniline	< 1600.	< 1600.
Benzyl Alcohol	< 330.	< 330.
2-Methyl Naphthalene	< 330.	< 330.
Dibenzofuran	< 330.	< 330.

REPORT APPROVED BY: Barbara G. Raya-Hash
Barbara G. Raya-Hash, Manager
Laboratory Operations

All results in ug/l (ppb) unless otherwise indicated.

jmt/L:120

Randolph & Associates, Inc.
8901 NORTH INDUSTRIAL ROAD, PEORIA, ILLINOIS 61615-1589
TELEPHONE 309-692-4422

TO: H&A of New York
189 North Water Street
Rochester, NY 14604
ATTN: Vince Dick/Suzanne Wheatcrest

REPORT DATE: 3-30-88
DATE REC'D.: 3-21-88
PROJECT NO.: 2-0920.001.01
P.O. NUMBER:

RAI SAMPLE NO.:	880321-17	880321-18
DATE SAMPLED:	3-18-88	3-18-88
DESCRIPTION:	CR-030 0.0-2.0'	CR-030 1.2-1.5'
ACID TARGET COMPOUNDS		
Benzoic Acid	< 1600.	< 1600.
2-Chlorophenol	< 330.	< 330.
2,4-Dichlorophenol	< 330.	< 330.
2,4-Dimethylphenol	< 330.	< 330.
4,6-Dinitro-O-Cresol	< 1600.	< 1600.
2,4-Dinitrophenol	< 1600.	< 1600.
2-Methylphenol	< 330.	< 330.
4-Methylphenol	< 330.	< 330.
2-Nitrophenol	< 330.	< 330.
4-Nitrophenol	< 1600.	< 1600.
P-Chloro-M-Cresol	< 330.	< 330.
Pentachlorophenol	< 1600.	< 1600.
Phenol	< 330.	< 330.
2,4,6-Trichlorophenol	< 330.	< 330.
2,4,5-Trichlorophenol	< 1600.	< 1600.

All results in ug/l (ppb) unless otherwise indicated.

Approved By: Barbara G. Raya-Hash
Barbara G. Raya-Hash, Manager
Laboratory Operations

jmt/L:120

H & A of New York
189 N. Water St.
Rochester, NY. 14604

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

H&A FILE NO. 76114
PROJECT Cheshire - Mundelein, Illinois
H&A CONTACT Vince Dick, James Fitch

LABORATORY Randolf & Associates ~~Rochester~~ Inc
ADDRESS 10 South Riverside Plaza
CONTACT Mike Hoffman Chicago IL 60606

DELIVERY DATE 3/18/88
DATE FINAL REPORT DUE 4/4/88
PROJECT MANAGER'S INITIALS JGT

H&A SAMPLE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH (ft)	SAMPLE TYPE	ANALYSES: VOA	ABN	METALS	PEST/PCB	PET. ID	O & G	Semi-Volatile organics				NO. OF CONTAINERS	COMMENTS (Special instructions, cautions, etc.)
B408-2, S2		3/17/88		2.0-4.0 ft	soil	✓						[redacted]				2	
B408-2, S5		3/17/88		8.0-10.0 ft	soil	✓						[redacted]				2	
CR-030		3/18/88	1220	0-0.2	soil	✓						✓				2	organic solvent contamination possible
CR-030		3/18/88	1220	1.2-1.5	soil	✓						✓				2	" " "
B408-3		3/18/88		2.0-4.0	soil	✓										2	
B408-3		3/18/88		8.0-10.0	soil	✓										2	
CR-8		3/18/88		1.5-2.0	soil	✓										1	(organic) possible solvent contamination
CR-9		3/18/88		1.5-2.0	soil	✓										1	possible organic solvent contamination

	VOA	ABN	METALS	PEST/PCB	PET. ID	O & G	Semi-Volatile organics				NO. OF CONTAINERS
LIQUID: VOA Vial											
LIQUID: Glass Bottle											
LIQUID: PlasticBottle											
LIQUID: Preservative											
LIQUID: Container Volume											
SOLID: VOA Vial	✓						✓				
SOLID: Glass Jar											
SOLID: Plastic Jar											
SOLID: Preservative											
SOLID: Container Volume											

Note: Sample bottles supplied by lab, unless indicated.

PRESERVATION KEY: (A) Sample chilled, B Filtered, C Acidified with Ice
D - NaOH, E - NaThiosulfate, F - Other

I. Sampled and Relinquished by
Sign James R Fitch Jr.
Print James R Fitch Jr
Firm H & A of New York
Date 3/18/88 Time

I. Received by
Sign [signature]
Print Maurice J. Hoffman
Firm Randolf & Assoc.
Date 3/18/88 Time 8 am

II. Relinquished by
Sign
Print
Firm
Date Time

II. Received by
Sign
Print
Firm
Date Time

III. Relinquished by
Sign
Print
Firm
Date Time

III. Received by
Sign
Print
Firm
Date Time

IV. Relinquished by
Sign
Print
Firm
Date Time

IV. Received by
Sign
Print
Firm
Date Time

Evidence Samples tampered with? ☐ No ☐ Yes
If Yes, explain in remarks.

REMARKS: (Sample storage, nonstandard sample bottles)

Please sign this form and return with analytical results. Also - please return cooler.

H & A of New York
189 North Water Street
Rochester N.Y. 14604

Appendix C

APPENDIX C

XEROX CORPORATION ENVIRONMENTAL
SITE/VENTURE ASSESSMENT

XEROX CORPORATION
ENVIRONMENTAL SITE/VENTURE ASSESSMENT

DATE: 2 Mar 88

LANDLORD/OWNER Cheshire - A Xerox Company
404 Washington Blvd.
Mundelein, IL 60060

LOCATION 404-408 Washington Blvd.; 1040, 1051 High St.;
918 Turret Court
Mundelein, IL 60060

TYPE OF FACILITY (IES) Manufacturing, office, warehouse, training

TYPE OF BUSINESS Manufacture and repair of mailing equipment

PERSON COMPLETING QUESTIONNAIRE

Robert J. Mahoney
H&A of New York

PERSON(S) PROVIDING INFORMATION

George Cortez - Cheshire

XEROX SITE/VENTURE REPRESENTATIVE

George Cortez - Cheshire

AFTER COMPLETION SEND TO:

CORPORATE ENVIRONMENTAL HEALTH & SAFETY
Xerox Corporation Bldg. 0317-14S
Joseph C. Wilson Center for Technology
Webster, New York 14580

Atten: James C. MacKenzie, Director

XEROX CORPORATION
Environmental Site /VentureAssessment Questionnaire

ASSET ACQUISITION - DIVESTITURE

TYPE OF TRANSACTION: _____ buy, _____ lease, _____ operating group transfer; __X__ sale

_____ Secured loans; _____ Equity position; _____ Partner/business relations

SITE: Approximately 16.6 acres _____ square feet

Location; _____

Previous Usage (if known); Original occupancy by Cheshire.

Current Usage: _____

Intended Use by Xerox: _____

Setting: _____ rural, __X__ suburban, _____ urban

Zoning (if any): M-1, Medium Industrial

Surrounding Site Usage: (check all which apply)

__X__ Industrial, _____ Commercial, _____ Retail, _____ Residential

Percent of Site Covered by Structure(s):

___ <10%, __X__ 10%-50%, _____ 50%-75%, ___ 75%-90%, _____ 90%-100%.

FACILITY:
Asbestos in buildings _____ yes, __X__ no; PCB transformers in bldg(s) Eliminated _____ yes, _____ no

Heating Source: _____ oil, __X__ gas, _____ electric

Water Supply: __X__ municipal distribution system, _____ on-site supply well(s)

Wastewater Discharge: __X__ municipal system (POTW), _____ on-site septic system (leaching field or cesspool)

OPERATION:
Permits: N.A. Types _____

Hazardous Generator status (RCRA): __X__ small quantity generator, _____ large quantity generator, _____ status unknown

EPA I. D. Number _____

Principal types of materials used/wastes generated: _____ oils, __X__ solvents, _____ chemicals; _____ Other - (describe) _____

Processes: Type; (describe) _____

_____